



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

H.P.

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,948	10/02/2003	Yasuyuki Shinkai	242388US2CONT	5892
22850	7590	10/25/2006		
C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER VILLALUNA, ERIKA J	
			ART UNIT 2852	PAPER NUMBER

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/675,948	Applicant(s) SHINKAI ET AL.	
	Examiner Erika Villaluna	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-21, 23-25, 30-35 and 37-45 is/are rejected.
- 7) ☒ Claim(s) 22, 26-29, 36 and 46-49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The objection to the drawings set forth in the previous office action are withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 19- 21, 24, 25, 30-32, 34, 35, 37, 40-42, 44, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Kinoshita et al. (US 6,381,419 B1).
4. Regarding claim 19, Kinoshita et al., herein Kinoshita, discloses an image forming apparatus, comprising: a main body having a receiving portion (fig. 1, receiving portion that holds each imaging unit); a plurality of imaging units (7), each imaging unit having a housing and being configured to develop electrostatic latent images with toner; a holding unit configured to hold the imaging units (structure that holds the four imaging units 7), and being detachably attached to the main body through the receiving portion; and a plurality of toner feeding devices (5) provided separately from the plurality of imaging units, each toner feeding device including a toner feeding pipe (fig. 2, pipe that extends into developing device 4, through opening 46), wherein the plurality of toner

feeding devices and the plurality of imaging units are detachably engaged to each other, and each of the toner feeding pipes is configured to extend into a corresponding housing on one of the plurality of imaging units and supply toner to the imaging unit (fig. 1, each toner feeding device 5 has a toner feeding pipe extending into each developing device 4 of imaging unit 7).

5. Regarding claim 20, Kinoshita discloses the toner feeding pipes are configured to protrude from the main body (fig. 1, each toner feeding pipe protrudes from the main body into the receiving portion holding each process cartridge 7) into the receiving portion when extending into a corresponding one of the plurality of imaging units.

6. Regarding claims 21 and 24, Kinoshita discloses each imaging unit (7) includes an aperture (46; fig. 2) to allow the toner feeding pipe to extend therethrough; wherein the plurality of imaging units comprise four imaging units lined substantially in a row in the holding unit (fig. 1, each of the four imaging units 7 are lined in a row).

7. Regarding claim 25, Kinoshita discloses each imaging unit (7) includes a developing device (4) configured to develop the electrostatic latent image, and an image carrier (1) configured to carry the electrostatic latent image.

8. Regarding method claims 30-32, 34, and 35, the method steps thereof are met by the structure of Kinoshita as set forth above.

9. Regarding claim 37, Kinoshita discloses removing residual toner (with cleaner 6) on the respective image carrier (1).

10. Regarding claim 40, Kinoshita discloses an image forming apparatus comprising: a plurality of developing means (7) for developing electrostatic latent images with toner,

Art Unit: 2852

each developing means having a housing (housing around 7); holding means for holding the plurality of developing means (structure that holds the four imaging units 7); attaching means for detachably attaching the plurality of developing means to a main body through a receiving portion of the main body; and a plurality of supplying means (5) for supplying toner to a corresponding one of the developing means, the supplying means provided separately from the developing means (5 is separate from 7), each supplying means including a means for feeding (51), wherein the supplying means and the developing means are detachably engaged to each other (5 and 7 are detachably engaged), and each of the means for feeding toner includes a pipe that extends into and supplies toner to a corresponding housing of one of the developing means (fig. 1, each toner feeding device 5 has a toner feeding pipe extending into each developing device 4 of imaging unit 7).

11. Regarding claims 41, 42, 44, and 45, Kinoshita discloses the pipes are configured to protrude from the main body into the receiving portion (fig. 1, each toner feeding pipe protrudes from the main body into the receiving portion holding each process cartridge 7) when extending in the developing means (4); wherein each developing unit (7) includes an aperture (46; fig. 2) to allow the pipes to extend therethrough; wherein the plurality of developing means includes four developing means lined substantially in a row in the holding means (fig. 1, each of the four imaging units 7 are lined in a row); and wherein each developing means (7) includes carrier means (1) for carrying the electrostatic latent image.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 23, 33, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita in view of Takano (US 5,249,020).

14. Regarding claims 23, 33, and 43, Kinoshita discloses the invention as set forth above.

15. Kinoshita does not disclose a sealing member.

16. Takano discloses a sealing member (34B) to prevent toner from exiting the imaging unit through the aperture (32A).

17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the imaging unit of Kinoshita with the sealing member of Takano for the benefit of preventing toner leakage when the toner feeding means is not engaged with the aperture.

18. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita in view of Kim (6011,943).

19. Regarding claims 38 and 39, Kinoshita discloses the invention as set forth above, further comprising transferring toner images formed on a the plurality of image carriers (1) onto a recording medium using a plurality of intermediate transfer devices (9 and 8).

Art Unit: 2852

20. Kinoshita does not disclose a toner storing device provided separate from the imaging unit.

21. Kim teaches storing residual toner (150) from an imaging unit (from cleaner 171) separate from the imaging unit (150 is separate from 171).

22. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kinoshita to have a separate toner storing device as in Kim for the benefits of filtering toner from carrier to be reused. Note Kim, Abstract.

Allowable Subject Matter

23. Claims 22, 26-29, 36, and 46-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

24. The prior art does not disclose or suggest "the aperture is located on a vertical side surface of the imaging unit" in combination with the remaining claim elements as set forth in Claim 22.

25. The prior art does not disclose or suggest "to form cyan, magenta, yellow, and black toner images, respectively" in combination with the remaining claim elements as set forth in Claims 26-29, 36, and 46-49.

Conclusion

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2852

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

27. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Response to Arguments

28. Applicant's arguments with respect to independent claims 19, 30, and 40 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

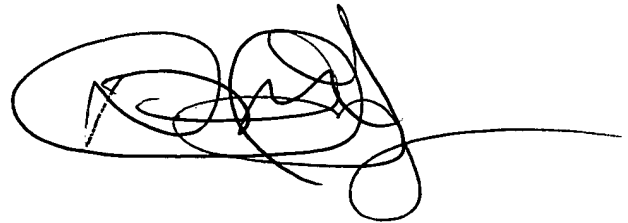
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika Villaluna whose telephone number is (571) 272-8348. The examiner can normally be reached on M-F 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David M. Gray can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2852

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EV

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

DAVID M. GRAY
SUPERVISORY PATENT EXAMINER